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10/599,029

09/18/2006

Seiichi Mizukoshi

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EXAMINER

SHARIFI-TAFRESHI, KOOSHA

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

12/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/599,029

Applicant(s)

MIZUKOSHI ET AL.

Examiner

Koosha Sharifi

Art Unit

2629

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5 is/are rejected.
- 7) ☒ Claim(s) 3, 7 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB06)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 09/18/2006

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Species 2 (Fig.6) directed towards claims 1-7 in the reply filed on 11/11/09 is acknowledged. The traversal is on the ground(s) that Fig.4 and Fig.6 do not show mutually exclusive characteristics. This is found persuasive, the Examiner agrees with the Applicants that Fig.4 and 6 cannot be categorized as different species since every feature of Fig.4 is present in Fig.6 and hence is not mutually

exclusive.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1 and 6 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. [Mizukoshi;

Seiichi et al., US 7345660 B2] in view of [Kane, Michael Gillis et al., US 20010024186

A1]. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the current application and the ODP patent disclose a storage unit which stores correction data which comprise pixel position data to correct non-uniformity of brightness and an emission controller. The sole difference between the current application and the ODP patent lies in that the current application does expressly disclose a formula for the correction of the brightness non-uniformity however Kane disclose such formula, see Kane's Formula 10, thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to have included Kane's formula in the organic el display device of the current application in order to yield a display device with a more uniform brightness.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by **[Kane, Michael Gillis et al., US 20010024186 A1]**.

Regarding claim 1:

Kane discloses:

An organic EL display apparatus [**Kane: Claim 8: “The display of claim 7, wherein said light element is an organic light emitting diode (OLED)”**] including in each display pixel an organic EL element [**Kane: Fig.3: LED; Claim 8**] and a drive transistor [**Kane: Fig.3: N2; Paragraph 0172**] that supplies the organic EL element with a drive current [**Examiner: Inherent from position of N2**] that depends on brightness data [**Examiner: Inherent that current through the LED (brightness) directly relates to an input video signal / data signal.]** and having the display pixels arranged in a matrix form [**Kane: Title: Active Matrix**], the organic EL display apparatus comprising: a correction gain storage unit [**Kane: Fig.13: MEMORY**] for storing display pixel positions [**Kane: Paragraph 0013: “...and a memory for storing pixel parameters...”**; Paragraph 0141: “After all pixels have been measured, the memory contains the two parameters $V_{sub.offset}$ and C for each pixel in the array.”; Examiner: Note that the pixel parameters are stored for each pixel hence pixel parameter must necessarily contain information on the position for each pixel] and a correction gain [**Kane: Paragraph 0141; Examiner: $V_{sub.offset}$ and C information correspond to Applicant’s correction gain**] for correcting the slope of the brightness-data-based drive current of the drive transistors in the display pixels [**Kane: Paragraph 0134 and formula (10), see also Formula 8; Examiner: Note that $V_{sub.g}$ is the voltage applied at the gate of the driving transistor, the voltage at the gate of the driving transistor N2 controls how much current will pass on to the LED. Note that the amount of voltage applied to the gate at N2 is directly related to $V_{sub.offset}$, see formula (10)]; and**

a correction unit **[Kane: Fig.13: 1320 corresponds to Applicant's correction unit; Paragraph 0101]** for correcting pixel-by-pixel brightness data **[Kane: Claim 17]** depending on the pixel position **[Kane: Paragraph 0013: "...and a memory for storing pixel parameters..."; Paragraph 0141: "After all pixels have been measured, the memory contains the two parameters V.sub.offset and C for each pixel in the array."; Examiner: Note that the pixel parameters are stored for each pixel hence pixel parameter must necessarily contain information on the position for each pixel]** using the correction gain **[Kane: Paragraph 0141; Examiner: V.sub.offset and C information correspond to Applicant's correction gain]** stored in the correction gain storage unit into brightness data for the pixel to generate corrected brightness data **[Kane: Paragraph 0144]**, wherein each of the display pixels is displayed **[Kane: Fig.15,16; Inherent]** by driving its drive transistor **[Kane: Fig.15,16; Inherent]** in response to the data **[Kane: Fig.15,16: 1520]** generated by the correction gain storage unit and the correction unit **[Kane: Fig.13: 1320]** and supplying the corresponding organic EL element with the drive current **[Kane: Fig.15,16; Inherent]**.

Regarding claim 2:

Kane discloses:

The organic EL display apparatus according to claim 1, wherein the correction unit multiplies brightness data by a correction gain **[Kane: Fig.15, 16: 1520, 1630]**.

Regarding claim 5:

Kane discloses:

The organic EL display apparatus according to claim 1, wherein the correction gain storage unit stores a correction value for each of horizontal or vertical lines [Kane: Paragraph 0013: "...and a memory for storing pixel parameters..."; Paragraph 0141: "After all pixels have been measured, the memory contains the two parameters V.sub.offset and C for each pixel in the array."; Examiner: V.sub.offset and C corresponds to Applicant's correction value. Note that the pixel parameters are stored for each pixel hence V.sub.offset and C are also stored for each horizontal and vertical line since each pixel is located at the intersection of a respective horizontal and vertical line].

Allowable Subject Matter

4. Claims 3, 4, 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 3:

The prior art does not teach or suggest:

The organic EL display apparatus according to claim 1, further includes: a correction offset storage unit for storing a display pixel position and a correction offset for correcting an offset for brightness data of the drive transistor in the display pixel for an area having a given plurality of display pixels, wherein the correction unit corrects pixel-by-pixel brightness data depending on the pixel position using the correction gain stored in the correction gain storage unit and the correction offset stored in the correction offset storage unit into brightness data for the pixel to generate corrected brightness data.

Regarding claim 4:

Claim 4 depends on claim 3 and is found allowable for at least the same reason as discussed above.

Regarding claim 6:

The prior art does not teach or suggest:

The organic EL display apparatus according to claim 1, further including: overall emission control means for allowing all display pixels in a display area, in which the display pixels are arranged in a matrix form, to emit light based on two or more items of brightness data different from one another;
selective emission control means for permitting organic EL elements of a plurality of display pixels within the given area in the display area to selectively emit light based on two or more pieces of brightness data different from one another;

current detection means for detecting individual drive currents when all and selected pixels emit light; and

slope characteristic calculation means for calculating, in relation to a slope of drive current with respect to brightness data in a display pixel selected based on the detected drive current, the relationship of the slope of the drive current with respect to the brightness data for all display pixels, wherein a correction gain corresponding to a slope characteristic calculated by the slope characteristic calculation means is stored in the correction gain storage unit.

Regarding claim 7:

Claim 7 depends on claim 6 and is found allowable for at least the same reason as discussed above.

5.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

[Asai; Nobutoshi et al., US 5886474 A] discloses: A luminescent device having drive-current controlled pixels and method therefor.

[Feldman; Rodney D., US 6501230 B1] discloses: A display with aging correction circuit.

[Abe, Shinichi et al., US 20030234754 A1] discloses: In paragraph 0013: a drive circuit which is capable of reducing luminance unevenness.

[Henmi, Koji et al., US 20040041756 A1] discloses: A device which compensates for the decrease in luminance characteristics due to the aging of an EL display panel. See abstract.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Koosha Sharifi whose telephone number is (571) 270-5897. The examiner can normally be reached on Mon - Fri / 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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